

Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### No Creek

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#### Water Body Segment at a Glance:

**County:** Grundy/Livingston  
**Nearby Cities:** Laredo  
**Length of impaired segment:** 22.5 miles  
**Pollutant:** Bacteria  
**Source:** Rural Nonpoint Source  
**Water Body ID:** 0550



State Map Showing Location of Watershed

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**Scheduled for TMDL development:** 2013

#### Description of the Problem

##### Beneficial uses of No Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation – Category B

##### Use that is impaired

- Whole Body Contact Recreation – Category B

##### Standards that apply

- Missouri's Water Quality Standards at 10 CSR 20-7.031(4)(C) state that the *E. coli* bacteria count shall not exceed 126 colonies per 100 milliliters of water (126 col/100 mL) for Category A and 206 col/100 mL for Category B waters. This count is the geometric mean during the recreational season (April 1- October 31) in waters designated for whole body contact recreation.

##### Background information and water quality data

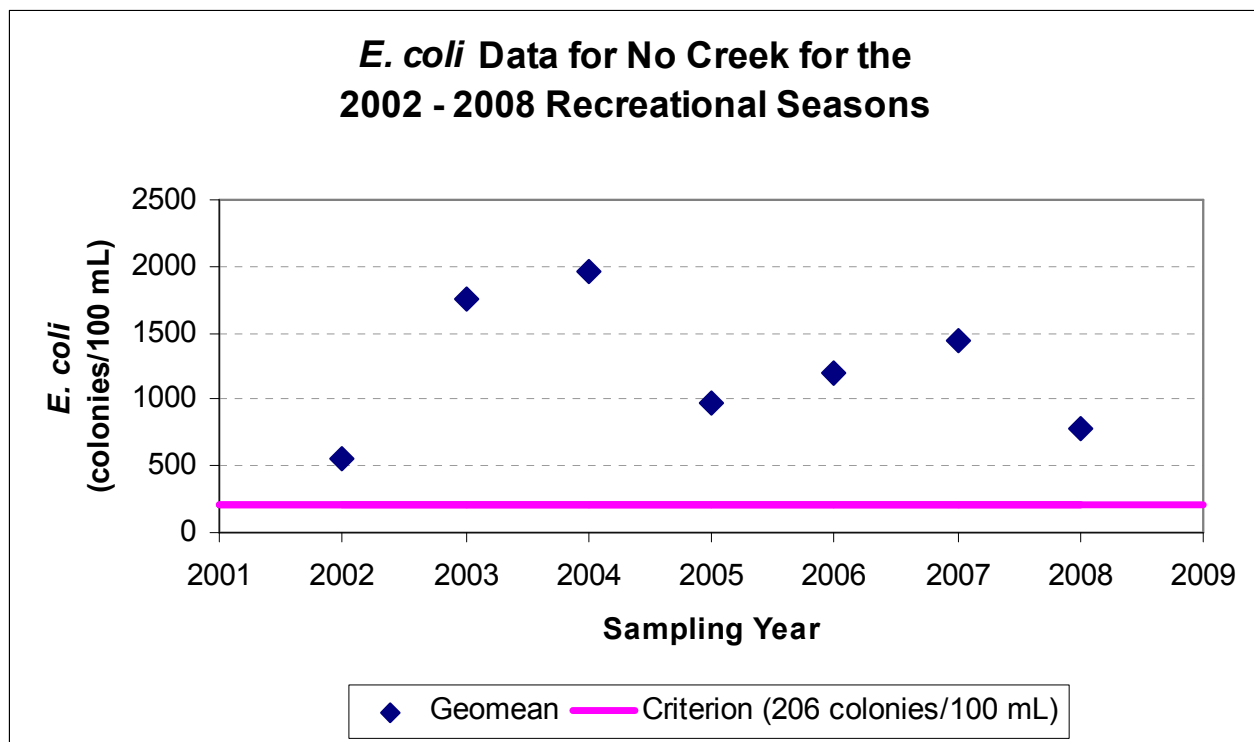
No Creek is a south-flowing prairie stream that lies in north central Missouri. It is a tributary to the Thompson River. Evidence for the bacteria impairment is based on data collected by the U.S. Geological Survey from 2002-2008.

Excessive amounts of fecal bacteria in surface water used for recreation are an indication of an increased risk of pathogen-induced illness to humans. Infections due to pathogen-contaminated waters include gastrointestinal, respiratory, eye, ear, nose, throat and skin diseases. *E. coli* are

bacteria found in the intestines of warm blooded animals and used as indicators of the risk of waterborne disease from pathogenic (disease causing) bacteria or viruses. Most *E. coli* strains are harmless, but some can cause serious illness in humans and are occasionally responsible for product recalls. The harmless strains are part of the normal flora of the intestines, and can benefit their hosts by preventing the establishment of pathogenic bacteria within the intestine<sup>1,2</sup>. Missouri's bacteria criteria are based on specific levels of risk of acute gastrointestinal illness. The levels of risk correlating to these criteria are no more than eight illnesses per 1,000 swimmers in fresh water.

No Creek is designated as Category B for the whole body contact recreation use, which means it has places deep enough for total immersion (i.e., swimming), but they may be on private lands or inaccessible to the public. The *E. coli* criterion of 206 col/100 mL for Category B waters is interpreted as the geometric mean of at least five samples collected during the recreational season (April 1 through October 31) of any given year. This criterion has been exceeded in No Creek every year from 2002-2008.

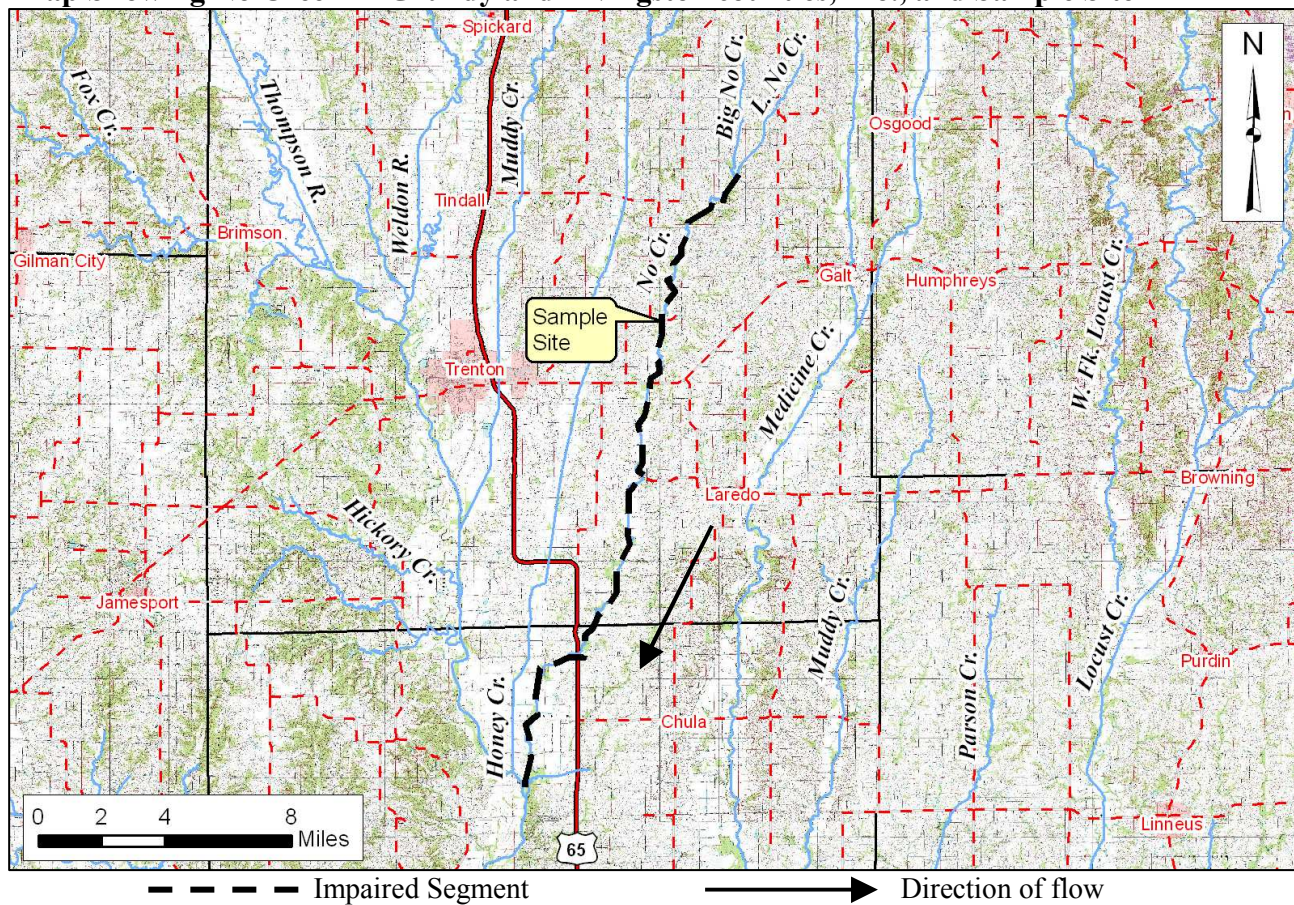
People can protect themselves from waterborne illness by avoiding contact with contaminated water. However, when swimming anywhere, it is wise to take commonsense precautions. These include washing hands before eating, showering after swimming and avoiding exposure to questionable water if you have open cuts or wounds.



<sup>1</sup> Hudault S, Guignot J, Servin AL (July 2001). "[Escherichia coli strains colonising the gastrointestinal tract protect germfree mice against Salmonella typhimurium infection](#)". *Gut* **49** (1): 47–55

<sup>2</sup> Reid G, Howard J, Gan BS (September 2001). "Can bacterial interference prevent infection?". *Trends Microbiol.* **9** (9): 424–8.

## Map Showing No Creek in Grundy and Livingston counties, Mo., and Sample Site



**Sample Site**  
No Creek at State Highway N

### For more information call or write:

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Water Protection Program

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